



United States Department of  
Health & Human Services

Enterprise Architecture  
Program Management Office

# **HHS Enterprise Architecture Governance Plan**

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February 2007

# Approvals

The Health and Human Services (HHS) Enterprise Architecture (EA) Governance Plan describes the major activities of the HHS EA Program and, especially, the interaction of HHS EA Program activities with related functions, processes, and initiatives within and outside HHS. The Governance Plan defines roles and responsibilities for HHS EA stakeholders.

Consistent with the Clinger-Cohen Act of 1996, the HHS CIO has been designated as the responsible authority for Enterprise Architecture within HHS.

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## Disclaimer

The information in this document is believed to be accurate and reliable. The origin of this information may be internal or external to the Department of Health and Human Services (HHS). The HHS EA Program staff have made all reasonable efforts to verify the information in this document.

## Document Change History

Version Number	Release Date	Summary of Changes
0.1	March 2004	Origination of Document
1.0	December 2004	Revised and expanded to include organizational roles and authorities
2.0	February 2006	Revised to reflect organizational changes
3.0	February 2007	Revised to expand scope of coverage

# 1 Introduction

The Department of Health and Human Services (HHS) Office of Enterprise Architecture manages an Enterprise Architecture (EA) Program, under the leadership of the HHS Chief Enterprise Architect (CEA). The Office of Enterprise Architecture within the Office of the Chief Information Officer (OCIO) oversees many of the Department's core strategic planning and accountability functions, including information security, capital planning and investment control, information resources strategic planning, and of course, enterprise architecture. The HHS EA Program fulfills multiple Federal mandates related to planning and managing information technology (IT) investments and supporting organizational effectiveness at the Department, Staff Division (STAFFDIV), and Operating Division (OPDIV) levels, and with relevant government-wide initiatives.

Key legislative and management drivers for the HHS EA Program include the Information Technology Management Reform Act of 1996 (Clinger-Cohen), the E-Government Act of 2002, the Health Insurance Portability and Accountability Act of 1996 (HIPAA), the Government Performance Results Act of 1993 (GPRA), and guidance from the Office of Management and Budget (OMB) including Circulars A-11, A-127, and A-130. In addition, the HHS EA Program ensures the Department's compliance with OMB's Federal Enterprise Architecture (FEA) and Federal Transition Framework (FTF), and responds to regular EA maturity assessments performed by the Government Accountability Office (GAO) and OMB.

The HHS EA Governance Plan describes the key enterprise architecture stakeholders, including roles and responsibilities related to various management functions, decision-making activities, and oversight processes at HHS. The HHS EA provides information and capabilities that support numerous other HHS programs, with current and planned uses for the HHS EA including:

- Supporting strategic planning and alignment of business and IRM goals and objectives
- Maintaining baseline and target architecture information in a centralized repository
- Providing and managing technical infrastructure and EA tools available to all OPDIVs
- Defining a performance management framework for measuring success of initiatives
- Supporting Enterprise Performance Life Cycle (EPLC) processes and activities
- Supporting investment technical review and approval
- Identifying technical and process improvement opportunities
- Supporting Capital Planning and Investment Control (CPIC) processes
- Supporting information security management processes
- Identifying opportunities for collaboration, reuse, data sharing and consolidation
- Documenting enterprise service capabilities available for use across the Department
- Defining, publishing, and enforcing compliance with technical standards
- Ensuring alignment with relevant cross-agency and government-wide initiatives

## 1.1 Document Structure

**Part 1 Introduction** (this section) gives a general description of the purpose, scope, objectives and audience for the HHS Enterprise Architecture Program Governance Plan.

**Part 2 Enterprise Architecture Program Overview** summarizes the overall assumptions and context for the HHS EA Program and the related functions and processes to be addressed within the Governance Plan.

**Part 3 Organization and Roles** discusses the roles, responsibilities, and authorities attributed to the various HHS EA stakeholders, at the Departmental and OPDIV levels. It also discusses the use of the EA in context of the relationship among various decision-making and oversight bodies.

**Part 4 Enterprise Architecture Use** describes the interaction of the HHS EA Program within the Department, including the EA's role in supporting management functions, decision-making activities, and oversight processes. This section defines the scope of EA Governance in terms of the ways in which the EA is used and intended for use across the Department.

## 1.2 Purpose

This document is intended to describe the major activities of the HHS EA Program and, especially, the interaction of HHS EA Program activities with related functions, processes, and initiatives within and outside HHS. The Governance Plan defines roles and responsibilities for HHS EA stakeholders.

## 1.3 Audience

The intended audience for the Governance Plan includes all HHS EA stakeholders, as well as those interested in the operational activities of the HHS EA Program. These stakeholders include:

- HHS Assistant Secretary for Resources and Technology (ASRT)
- HHS Chief Information Officer (OCIO)
- HHS Chief Enterprise Architect (CEA)
- HHS Information Technology Investment Review Board (ITIRB)
- HHS CIO Council
- HHS Enterprise Architecture Review Board (EARB)
- Program Staff supporting the HHS Enterprise Architecture
- HHS OPDIVs and staff involved Enterprise Architecture activities
- HHS OPDIV investment, business, and technical review boards
- HHS and OPDIV Capital Planning and Investment Control (CPIC) programs and staff

- HHS and OPDIV IT Program and Project Managers and staff, including contractors
- Business Owners of programs, investments, and business functional areas and processes
- Contractors supporting HHS Enterprise Architecture initiatives
- OMB Line of Business programs and staff, including Federal Health Architecture (FHA), Human Resources LOB, Financial Management LOB, Grants Management LOB, Information Systems Security LOB, and IT Infrastructure Optimization LOB
- Federal Health Information Technology programs and staff, including the Office of the National Coordinator for Health IT

## 1.4 Overview of this Document

This HHS EA Program Governance Plan focuses on the roles and responsibilities of HHS EA stakeholders and on the processes and activities influenced, supported, or executed by the HHS EA Program.

The scope of the HHS EA Governance Plan is Department-wide; it includes all HHS Operating Divisions and Staff Divisions. The HHS EA uses a federated approach, storing and presenting Departmental and OPDIV-level enterprise architecture models within a single, centralized repository. The EA Governance Plan reflects this federation, specifying roles and responsibilities for the Department-level enterprise architecture as well as corresponding models and EA activities at the OPDIV level. From the perspective of the HHS IT portfolio, all IT investments are subject to compliance with declared HHS EA standards, with priority investments subject to formal evaluation of EA alignment through the CPIC critical partner review process.

The HHS EA Program is fully operational. As such, this plan addresses the use of the HHS EA in all relevant contexts, including demonstrating HHS compliance with relevant regulations and federal guidelines.

Related documents that provide additional details of the EA Program include:

- HHS EA Program Management Plan
- HHS EA Program Communications Plan
- HHS EA Framework
- HHS EA Configuration Management Plan

This plan complements, and will be incorporated by reference, within related HHS directives such as:

- HHS Information Resources Management Strategic Plan
- HHS Performance Management Plan
- HHS Enterprise Transition Plan
- HHS Enterprise Performance Life Cycle



## 2 Enterprise Architecture Program Overview

### 2.1 EA Drivers

The development and maintenance of the Department of Health and Human Services (HHS) Enterprise Architecture is required by Section 5125 of the Clinger-Cohen Act (CCA). It requires “developing, maintaining, and facilitating the implementation of a sound and integrated information technology architecture for the executive agency.” As defined in the CCA, “information technology architecture,” with respect to an executive agency, means an integrated framework for evolving or maintaining existing information technology (IT) to achieve the agency’s strategic goals and information resources management goals. In the 10 years since Clinger-Cohen was enacted, the scope of mandated enterprise architecture activities has been expanded – primarily through the efforts of the OMB Federal Enterprise Architecture Program Management Office (FEA PMO) – to explicitly include business architecture and performance architecture. Clinger-Cohen also legislated that organizational responsibility for enterprise architecture in federal agencies falls under the Chief Information Officer.

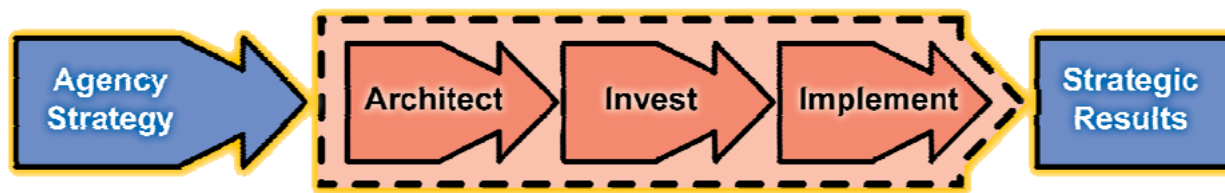
The FEA PMO works with Federal agencies to document, describe, and analyze EA from a government-wide perspective. Working with the federal CIO Council, in 1999 the FEA PMO developed and published the Federal Enterprise Architecture Framework (FEAF), which gives federal agencies a recommended common structure for building enterprise architectures. In support of the FEAF, OMB also publishes a set of five reference models (Performance Reference Model, Business Reference Model, Service Component Reference Model, Technical Reference Model, and Data and Information Reference Model) corresponding to the layers of the FEAF and to the need to link enterprise architecture to strategic planning and performance objectives. The FEA reference models provide a standardized taxonomy to organize and categorize architectural information. OMB requires agency enterprise architectures to align with the Federal Enterprise Architecture. In particular, major IT investments submitted to OMB must demonstrate compliance with agency enterprise architectures; this compliance includes alignment to the FEA.

The HHS EA Program is designed both to address the Department’s federal obligations for EA and to establish a basis for continuously evolving HHS business processes, services, and supporting systems and technologies. This provides effective operational capabilities in response to changing operational requirements and priorities. The HHS EA reflects HHS’ current environment and set of circumstances. It also defines intended target states to realize longer-term vision in the most effective and efficient way.

### 2.2 The Role of EA

The HHS Enterprise Architecture is the plan for optimally allocating resources of all types toward the realization of the Department’s strategic business goals and objectives. The EA is a strategic resource that helps HHS plan, invest in, and implement information technology solutions to meet business needs and help manage the IT investment portfolio. It provides a mechanism for understanding and managing complexity and change. EA products identify the alignment of organizational business and management processes, data flows, and technology. They also enable identification of capability gaps and duplication. The role of the enterprise architecture within the broader cycle of strategic planning and execution is reflected in the initial

“Architect” phase of the iterative performance improvement lifecycle described by OMB, as depicted in Figure 1 (Source: FEA Practice Guidance, December 2006).



**Figure 1: Performance Improvement Lifecycle**

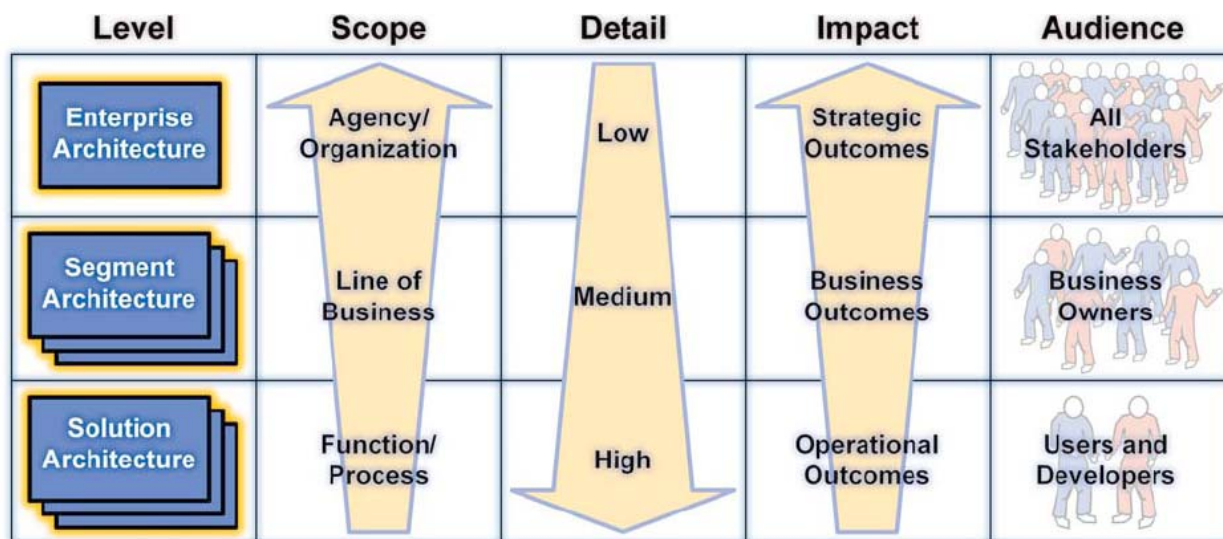
HHS is a large and diverse organization, with a broad mission and corresponding functional responsibilities at both the Department level and, especially, among the Operating Divisions. To improve the business-driven perspective necessary for effective enterprise architecture development in support of the HHS mission, the HHS EA Program has adopted an approach defined in terms of “segments.” Segments are discrete sets of business functions grouped as communities of interest according to similarities in mission, goals, objectives, and commonality of services and business processes. HHS defines nine segments:

1. Access to Care
2. Health Care Administration
3. Health Care Delivery
4. Health Care Research and Practitioner Education
5. Human Services
6. Population Health Management and Consumer Safety
7. Information Resources Management
8. Management of Government Resources
9. Planning and Accountability

The first six segments listed above are mission-oriented, both in terms of their alignment with goals articulated in the HHS Strategic Plan and in their incorporation of the primary functional responsibilities of the HHS Operating Divisions. The last three segments focus on business functions and services common across Departmental operations; each of these three has a supporting or enabling role for the mission segments. From a governance standpoint, the distinction between these two sub-sets of segments is significant because HHS maintains primary responsibility for the defining and development of the supporting segments, while the primary responsibility for each of the mission-oriented segments rests with one or more Operating Divisions.

The segment-based approach helps to make enterprise architecture more manageable and consistent across HHS and its OPDIVs. This business-driven perspective is also consistent with the EA guidance provided by OMB. The HHS EA Program’s incorporation of segment-based EA development principles helps to establish appropriate governance boundaries and dimensions

for EA development, use, and analysis. As depicted in Figure 2 (Source: FEA Practice Guidance, December 2006), the more narrowly a segment is defined in terms of scope, the greater the level of detail will be required to document the segment sufficiently to meet the needs of the segment stakeholders.



**Figure 2: Architecture Levels and Attributes**

## 2.3 EA Infrastructure

To support enterprise architecture information gathering, documentation, presentation, and reporting, the HHS EA Program deployed an enterprise architecture modeling tool and information repository, collectively known as the HHS Enterprise Architecture Repository (HEAR). The Department implemented HEAR as a centralized physical infrastructure with a federated logical design. This deployment model allows HHS to maintain an enterprise-wide perspective including all the Operating Divisions, while also permitting a degree of local flexibility at the OPDIV level to support OPDIV-specific needs. The use of a single, shared instance made available to the OPDIVs also provides economies of scale for EA technical capabilities across HHS. The underlying technology for HEAR has been implemented using a shared license pool, sized to support all EA modeling efforts at Department, STAFFDIV, and OPDIV levels. The HHS EA Program provides oversight of the HEAR system and its environment. This includes providing configuration management for the technical components of the environment, the structure of the repository, and the EA framework that supports EA functional requirements across HHS.

## 3 Organization and Roles

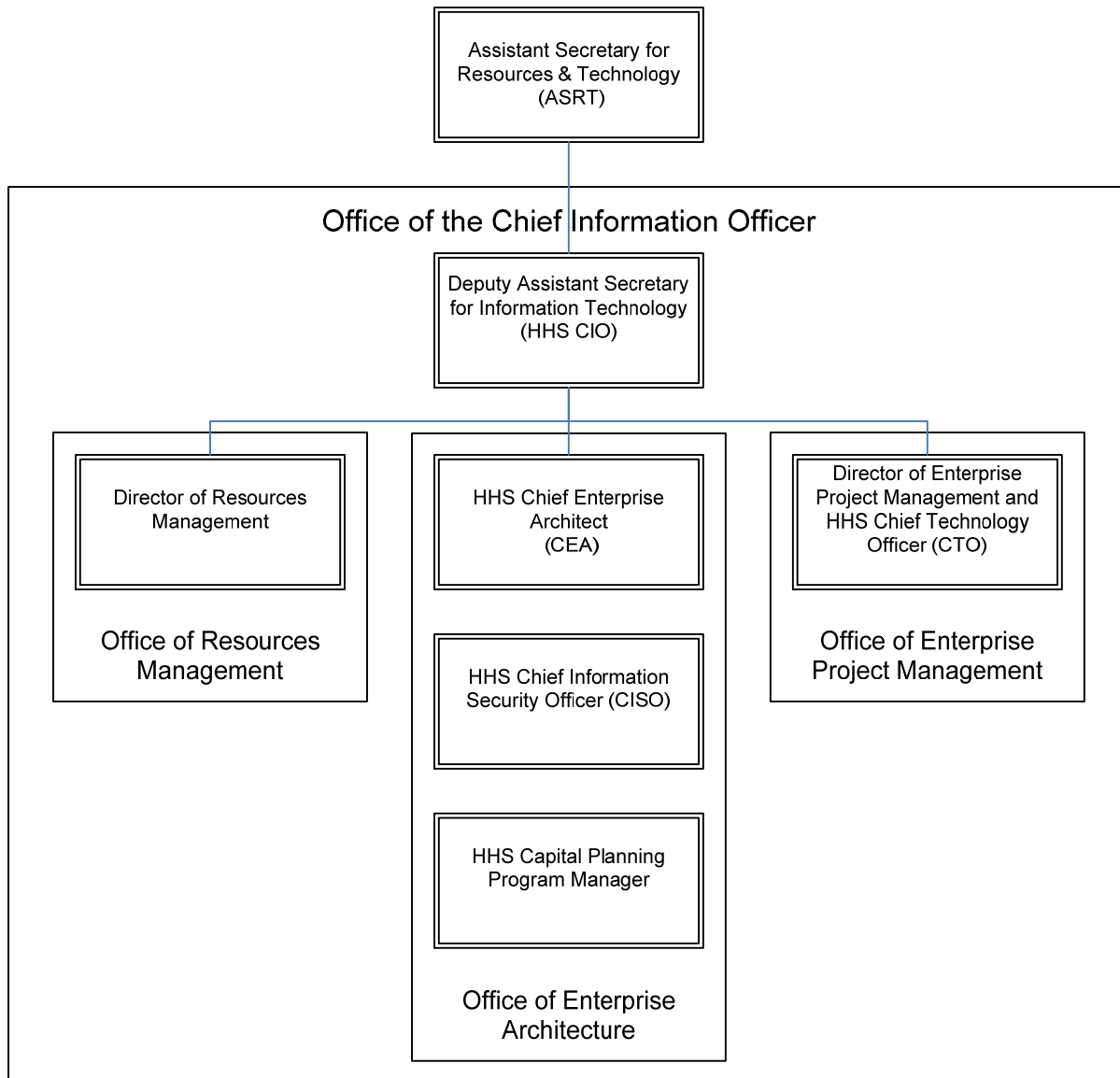
### 3.1 HHS Organization Structure

The Department of Health and Human Services is the United States government's principal agency for protecting the health of all Americans and providing essential human services, especially for those who are least able to help themselves. The Department includes more than 300 programs covering a wide spectrum of activities. HHS has many Staff Divisions corresponding to the Office of the Secretary, seven Assistant Secretaries, and 11 Operating Divisions:

- Administration for Children and Families (ACF)
- Administration on Aging (AOA)
- Agency for Healthcare Research and Quality (AHRQ)
- Agency for Toxic Substances and Disease Registry (ATSDR)
- Centers for Disease Control and Prevention (CDC)
- Centers for Medicare and Medicaid Services (CMS)
- Food and Drug Administration (FDA)
- Health Resources and Services Administration (HRSA)
- Indian Health Services (IHS)
- National Institutes of Health (NIH)
- Substance Abuse and Mental Health Services Administration (SAMHSA)

At the Department level, the HHS Enterprise Architecture Program is the responsibility of the Office of Enterprise Architecture (OEA) under the direction of the Chief Enterprise Architect (CEA). The OEA is a part of the Office of the Chief Information Officer (OCIO). The position of Chief Information Officer (CIO) is held by the Deputy Assistant Secretary for Resources and Technology under the Assistant Secretary for Resources and Technology.

The Office of Enterprise Architecture oversees the Departmental programs for Enterprise Architecture, Capital Planning and Investment Control, and Information Security, and also develops the HHS Information Resources Management Strategic Plans. Also within the HHS OCIO and are the HHS Director of Enterprise Project Management and Chief Technology Officer (CTO) and the HHS Director of Resources Management. These relationships are depicted in Figure 3, below.



**Figure 3: Organizational Structure of the Office of the Chief Information Officer**

### 3.1.1 Assistant Secretary for Resources and Technology

The mission of the Office of Resources and Technology is to provide advice and guidance to the Secretary on budget, financial management, information technology, and grants management, and to provide for the direction and coordination of these activities throughout the Department.

The Office is headed by the Assistant Secretary for Resources and Technology (ASRT). The ASRT:

- Is the Department's Chief Financial Officer (CFO). By delegation, the ASRT/CFO exercises full Department-wide authority of the Secretary's authorities and responsibilities delineated in the Chief Financial Officers Act of 1990.

- Coordinates the responsibilities delegated to the Chief Information Officer (CIO) to ensure the satisfaction of all functional responsibilities included in the Clinger-Cohen Act.
- Is responsible for the formulation, analysis and presentation of the HHS Budget submitted to OMB and the Congress.

ASRT includes:

- Office of Budget
- Office of Finance
- Office of the Chief Information Officer
- Office of Grants

The ASRT also is responsible for ensuring that HHS continues to make progress in meeting the goals of three of the areas of the President's Management Agenda:

- Expanded electronic government
- Budget and performance integration
- Improved financial management

These are all areas that can be supported by enterprise architecture activities.

### **3.1.2 Office of the Chief Information Officer<sup>1</sup>**

The Deputy Assistant Secretary for Information Technology (DASIT), who is also the HHS CIO, heads the Office of the Chief Information Officer (OCIO). The Office of the Chief Information Officer advises the Secretary and the Assistant Secretary for Resources and Technology on matters pertaining to the use of information and related technologies to accomplish Departmental goals and program objectives. The mission of the Office is to establish and provide:

- Assistance and guidance on the use of technology-supported business process reengineering;
- Investment analysis;
- Performance measurement;
- Strategic development and application of information systems and infrastructure;
- Policies to provide improved management of information resources and technology; and
- Better, more efficient service to our clients and employees.

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<sup>1</sup> Information in this section is taken from Federal Register: July 22, 2005 (Volume 70, Number 140), pages 42321-42322.

The Office exercises authorities delegated by the Secretary to the Deputy Assistant Secretary for Information Technology, as the CIO for the Department. These authorities derive from the Clinger-Cohen Act of 1996, the Paperwork Reduction Act of 1995, the Computer Matching and Privacy Act of 1988, the Computer Security Act of 1987, the Federal Information Security Management Act (FISMA), the National Archives and Records Administration Act of 1984, the Competition in Contracting Act of 1984, the Federal Records Act of 1950, OMB Circulars A-130 and A-11, Government Printing and Binding Regulations issued by the Joint Committee on Printing, and Presidential Decision Directive 63.

The Office of the Chief Information Officer is composed of the following subordinate organizations:

- Office of Resources Management
- Office of Enterprise Architecture
- Office of Enterprise Project Management

Among the functions the Office of the Chief Information Officer performs are the following related to enterprise architecture:

- Ensures the development and updates to the Information Technology Five Year Strategic Plan.
- Develops and coordinates information resources management policies applicable across the Department and the Office of the Secretary, including the creation, handling, storage, dissemination, and disposition of information.
- Leads the development and implementation of an enterprise information infrastructure across the Department.
- Oversees and manages risks associated with major information systems and information technology.
- Evaluates major investments in information technology, and is responsible for their subsequent periodic review.
- Guides and oversees the development of information systems and communications networks.
- Provide leadership in e-government activities.
- Provides executive direction to align Departmental strategic planning for information resources and technology with the Department's strategic business planning.
- Provides executive direction to develop and maintain Departmental information technology policy and architecture.

- Promotes business process reengineering, investment analysis, and performance measurement throughout the Department, to capitalize on evolving information technology.
- Represents the Department in federal government-wide initiatives to develop policy and implement an information infrastructure.
- Provides leadership to the Department's Information Technology Investment Review Board (ITIRB) and the Department's Chief Information Officers' Advisory Council. Oversees enterprise IT efforts and any similar OPDIV efforts related to architecture, technology and the HHS Web site.
- Provides review and guidance to the ITIRB and CIO Council via analyses of alternative analyses strategies, standards compliance, architectural conformance, and technology solutions.
- Develops and maintains HHS-wide Enterprise Architecture, including the business, data, application and technology components.
- Establishes architecture tools and repositories, coordinates with OPDIV architectures, develops technical guidance, assists managers of applications systems, and coordinates expert working groups to populate the architecture.
- Advises the ASRT, OPDIV CIOs and other senior officials on matters relating to technology. Leads the development of a department-wide investment strategy for advanced, innovative technology, and reviews agency technology policies, programs, processes and capabilities to ensure that HHS technology programs support the Department's objectives.
- Performs alternative analysis for key emerging and enabling technologies. Coordinates or directs pilot projects in these areas to establish proof of concept, confirm return on investment, or implement initial production implementations.

### 3.1.3 Office of Enterprise Architecture<sup>2</sup>

The Office of Enterprise Architecture (OEA) is headed by the Director, Office of Enterprise Architecture who is also the HHS Chief Enterprise Architect (CEA), and supports all planning and enterprise programs that fall under the Office of the Chief Information Officer. The Office of Enterprise Architecture is responsible for:

- Working with OPDIV Chief Information Officers (CIOs) to support Government-wide initiatives of the Federal CIO Council and to identify opportunities for participation and consultation in information technology projects with major effects on OPDIV program performance.

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<sup>2</sup> Information in this section is taken from Federal Register: July 22, 2005 (Volume 70, Number 140), pages 42322-42323.



- Providing leadership in the planning, design, and evaluation of major Departmental projects and oversight throughout project rollout and perform post implementation performance assessments.
- Assessing risks that major information systems pose to performance of program operations and administrative business throughout the Department, develops risk assessment policies and standard operating procedures and tools, and uses program outcome measures to gauge the quality of Departmental information resources management.
- Coordinating the Department's strategic planning, capital planning and investment control (CPIC), budgeting and performance management processes for information technology, and provides direct planning development and support to assure that IRM plans support agency business planning and mission accomplishment.
- Coordinating the activities of the Departmental Information Technology Investment Review Board (ITIRB) in assessing and prioritizing the Department's major information systems, and in analyzing and evaluating IT investment decisions. Reviews OPDIV ITIRB implementations, IT capital funding decisions, and use of performance metrics to evaluate program for both initial and continued funding.
- Coordinating and supports the Department's Chief Information Officer's Advisory Council, whose membership consists of the chief Information Officers from each OPDIV.
- Representing the Department through participation on interagency and Departmental work groups and task forces, as appropriate.
- Working with OPDIV Chief Information Officers to identify opportunities for administering information management functions and telecommunications initiatives with major effects on OPDIV performance. OEA provides leadership primarily in defining alternatives for acquisition of telecommunications services and coordinating implementation of information management initiatives in conjunction with the Chief Technology Officer and the Department Architect.
- Providing support for special priority initiatives identified by the CIO.

The Office of Enterprise Architecture also is responsible for implementing and administering the program to protect the information resources of the Department, including information security and privacy provisions, managed by the HHS Chief Information Security Officer (CISO):

- This includes management and oversight of activities under the Federal Information Security Management Act (FISMA), IT critical infrastructure protection (CIP), and Department-wide security contracts and high level project management of OPDIV security programs, such as corrective action plans and security policies.
- Implementing and administering the HHS security program to protect the information resources of the Department in compliance with legislation, Executive Orders, directives of the OMB, or other mandated requirements (e.g., the Clinger-Cohen Act, Presidential

Decision Directive 63, OMB Circular A–130), the National Security Agency, and other Federal agencies.

- Directing the development of and implementing cyber security policies and guidance for the Department, including requirements for employees and contractors who are responsible for systems of data, or for the acquisition, management, or use of information resources.
- Monitoring information system security program activities in the Department by reviewing OPDIV and STAFFDIV security plans for sensitive systems, recommending improvements, and evaluating safeguards to protect major information systems, or IT infrastructure.
- Responding to requests in conjunction with OMB Circular A–130, the Computer Security Act of 1987, and Presidential Decision Directive 63, or other legislative or mandated requirements related to IT security or privacy.
- Monitoring all Departmental systems development and operations for security and privacy compliance and providing advice and guidance to ensure compliance standards are included throughout system life cycle development.
- Reviewing Departmental ITIRB and CIO Council business cases (as well as OMB circular A–11 requirements) for assurance of security and privacy compliance.
- Recommending to the CIO to grant or deny programs the authority to operate information systems, based on security compliance. This includes regular certification of existing systems as well as newly implemented systems.
- Reviewing the Department’s information resources for fraud, waste, and abuse to avoid having redundant resources, in conformance with the Clinger-Cohen Act.
- Developing, implementing, and evaluating an employee cyber security awareness and training program to meet the requirements as mandated by OMB Circular A-130 and the Computer Security Act.
- Establishing and providing leadership to the Subcommittee of the HHS CIO Council on Security.
- Establishing and leading the HHS Computer Security Incident Response Capability team, the Department’s overall cyber security incident response/coordination center and primary point of contact for Federal Computer Incident Response Capability (FedCIRC) and National Infrastructure Protection Center (NIPC).

## 3.2 Governance Bodies

### 3.2.1 HHS CIO Council

The HHS Chief Information Officers Council is chaired by the HHS CIO and is composed of representatives at the Chief Information Officer or equivalent level from each of the OPDIVS, the Office of the Secretary, and the Office of the Inspector General (OIG). The HHS CIO Council oversees major HHS program initiatives, including federal e-Gov initiatives for which HHS has a lead role.

The HHS CIO Council establishes and approves the Department's Enterprise Architecture. A foundational piece of that EA is the information resources management infrastructure standards, including technology, data, and service standards. The CIO Council reviews HHS IT investments and initiatives to ensure compliance with standards or to grant waivers as requested by investments that deviate from standards. The CIO Council makes recommendations on technical feasibility of proposed IT investments and initiatives to the ITIRB.

### 3.2.2 HHS Information Technology Investment Review Board

The HHS Information Technology Investment Review Board (ITIRB) is chaired by the HHS CIO and is composed of the Deputy Assistant Secretary for Information Technology (HHS CIO), Deputy Assistant Secretaries for Grants, Acquisition Management, Finance, Budget, Human Resources and a senior business executive from each of the HHS OPDIVs, as designated by the OPDIV Head. This Board acts as the central review body to oversee, advise, and consult on the business feasibility and efficacy of Departmental information technology (IT) investments being proposed in support of HHS business programs and mission.

The ITIRB is charged with implementing the strategic vision, policy directions, and capital planning requirements set forth by the Department and the Office of Management and Budget. The ITIRB provides review and oversight of investments within the HHS IT investment portfolio in each of the three phases of Capital Planning and Investment Control: select, control, and evaluate. The ITIRB is responsible for ensuring that proposed investments align with the EA. The ITIRB monitors and evaluates the performance of information technology programs, and advises as to whether to continue, modify or terminate a program or project.

The scope of ITIRB oversight includes the entire HHS IT portfolio, but particular attention is focused on prioritized investments. These include major investments to be submitted to OMB for review and tactical investments proposed at the Department level and by the OPDIVs. The ITIRB also reviews and concurs with expenditure allocations for all investments proposed for funding at HHS.

### 3.2.3 HHS Enterprise Architecture Review Board

The HHS Enterprise Architecture Review Board (EARB) is composed of the HHS Chief Enterprise Architect and designated OPDIV Chief Architects (or other designee of the OPDIV CIOs). The HHS CEA chairs the EARB. The EARB assists the HHS CEA and HHS CIO by representing OPDIV business and IT stakeholders with respect to HHS EA matters. The EARB serves as a steering committee for HHS EA Program activities, and helps to establish EA

priorities and tasks to be performed by both HHS and OPDIV EA program teams. The Board reviews and maintains ongoing monitoring of key HHS enterprise projects for adherence to the HHS EA. The EARB makes recommendations to the HHS CIO Council and the HHS ITIRB regarding the collective opinion of the Department and its OPDIVs on enterprise architecture matters. The EARB also performs analyses of IT investment alignment and compliance with the HHS EA under a Critical Partner Review as part of the capital planning and investment control processes.

The HHS EARB has the ability to charter EA-related work groups as needed to support the achievement of EA Program objectives or help accomplish specific tasks.

### **3.2.4 HHS Model Working Group/Configuration Control Board**

The HHS Model Working Group (MWG) was chartered by the EARB to collaborate on the initial design of the HHS EA Framework and, in particular, the metamodel representation of that framework that is instantiated in the HHS EA Repository. The MWG is chaired by the Lead Architect or other designee in the HHS Office of Enterprise Architecture, and includes designated OPDIV representatives and alternates as well as other OPDIV architects and interested members of the HHS EA community. The voting members of the MWG include the chair representing the Department, each of the five large OPDIVs (CDC, CMS, FDA, IHS, and NIH), and OS representing the small OPDIVs.

Following the deployment of the HHS EA Repository in 2005, the Model Working Group charter was revised to formalize the MWG's role as the Configuration Control Board (CCB) for the technical components of the HEAR environment. In this capacity the MWG/CCB adjudicates change requests submitted to the HHS EA Program related to configuration items, following explicit configuration control procedures specified in the HHS EA Configuration Management Plan.

### **3.2.5 HHS Data Architecture Work Group**

The HHS Data Architecture Work Group (DAWG) was chartered by the EARB to bring to bear data architecture expertise from HHS and its OPDIVs and further mature and refine the data architecture within the HHS EA. The DAWG is chaired by the Data Architect in the HHS Office of Enterprise Architecture and includes members with data architecture subject matter expertise or special interest from the HHS EA Program, OS, and the OPDIVs. The DAWG is a standing working committee and advisory organization acting within authorities and tasks delegated to it from the HHS EARB or as directed by the HHS Chief Enterprise Architect (CEA). Its primary mission is to assist and advise the HHS CEA as a subcommittee of the HHS EARB in refining and maturing the HHS Enterprise Data Architecture. The DAWG focuses on developing and reviewing HHS data architecture artifacts that span OPDIVs and on promoting best practices in enterprise data architecture.

### **3.2.6 OPDIV Advisory and Review Groups**

Many of the HHS Operating Divisions maintain their own enterprise architecture programs and, to varying degrees, also support OPDIV-level capital planning and investment control and other related programs. Just as HHS-level governance bodies provide review and oversight of the

Department's investment portfolio, enterprise architecture, and program initiatives, the OPDIV-level IT investment review boards, architecture review boards, and EA program offices provide review and oversight for their own areas of responsibility. The scope of influence for these OPDIV advisory groups may include maintaining OPDIV-level governance and oversight for subordinate organizations within the OPDIVs, such as Centers, Institutes, and Offices, under authority delegated by the OPDIV Chief Information Officers.

Where OPDIV-level governance bodies exist, the Department expects OPDIVs to use their own advisory and review processes to reach consensus within the OPDIV on any issues, decisions, or recommendations. The OPDIVs then communicate the results of that consensus to the appropriate HHS program representative or governance body. This operational model mitigates the potential for the Department to receive inconsistent or conflicting information from different parts of an OPDIV and ensures that the OPDIV's positions are represented accurately to the Department.

### 3.3 Roles and Responsibilities

The roles and responsibilities for designated individuals and groups are summarized in the Table 1, below. The table shows the level and nature of participation by individual roles in advisory boards and other governance structures.

**Table 1: Individual Roles and Governance Body Participation**

Individual Role	Governance Body				
	HHS CIO Council	HHS ITIRB	EARB	MWG/CCB	DAWG
HHS CIO	Chair	Chair			
HHS CEA	Participant	Participant	Chair		
HHS Lead Architect (or designee)			Participant	Chair	
HHS Data Architect			Participant	Participant	Chair
HHS OS CIO	Member				
OPDIV CIO	Member	Member			
OS or OPDIV Chief Architect (or designee)			Member	Member	Participant
EA Program Staff			Participant	Participant	Participant

#### 3.3.1 HHS Chief Information Officer

The HHS CIO serves as the primary IT leader for the Department, and oversees programs executed within the Office of the CIO. The HHS CIO has broad responsibilities derived both from federal mandates, legislations, and other regulations and from internal HHS decisions regarding organizational structure. The HHS CIO delegates authority for many of these responsibility to the directors of the three offices under his supervision.

The HHS CIO serves as the chairperson for both the HHS CIO Council and the HHS IT Investment Review Board. The HHS CIO also represents the Department in the context of e-government and other federal government-wide initiatives, including representing HHS on the Federal CIO Council.

Within the scope of the HHS Enterprise Architecture, the HHS CIO is the business owner for many of the functional areas within the Planning and Accountability and Information Resources Management segments.

### **3.3.2 HHS Chief Enterprise Architect**

The HHS Chief Enterprise Architect (CEA) has direct responsibility and accountability for the overall HHS EA effort, including enabling the enterprise architecture's support for and interaction with other HHS programs. The HHS CEA serves as the technology and business leader for the architecture development and use, ensuring the integrity of the architectural development processes and the content of the EA products. In addition, the HHS CEA takes the lead in communication and outreach to both business and technical stakeholders across the Department and its OPDIVs to ensure all stakeholders understand the purpose of Departmental EA activities and the potential use for EA information to support decision-making in business and technical contexts. The HHS CEA is responsible for integrating EA with all components of the HHS Enterprise Performance Life Cycle, including Strategic Planning, Information Security, CPIC, Budget Planning and Execution, and Performance Measurement and Management.

The HHS CEA chairs the Enterprise Architecture Review Board (EARB), and delegates the leadership of working groups chartered by the EARB to appropriate staff within the Office of Enterprise Architecture. The HHS CEA updates and coordinates activities with the HHS CIO Council, the HHS ITIRB, and related Departmental strategic and decision-making forums. The HHS CEA is also the HHS point of contact for the Federal Health Architecture program, for which HHS is the managing partner.

The HHS CEA is the HHS CIO's EA representative to each of the OPDIVs. The HHS CEA works with the OPDIVs through the EARB to define those areas of EA to be prescribed at the Department level, and to specify areas for which OPDIVs, as the business subject matter experts, should more appropriately take a leadership role in coordinating the the development of the HHS enterprise architecture for those specified areas. For the benefit of HHS and the OPDIVs, the CEA:

- Assures HHS adherence to performance and compliance mandates of governmental review and policy organizations including the GAO and OMB.
- Provides review and recommendations to the HHS CIO Council and HHS CIO on investment and project EA compliance and waiver requests.
- Assists the OPDIVs in maintaining and communicating EA alignment requirements to the HHS EA, Federal Enterprise Architecture, Federal Transition Framework, and other cross-agency and government-wide initiatives.
- Assists in obtaining sustaining funding, negotiating schedules, and timely and accurate delivery of EA products.

- Assists in OPDIV preparation of EA budget requests.
- Manages HHS EA Program funding allocations.

The HHS CEA is supported by and oversees the HHS EA Support Program, which includes Program Management Office, EA development and use, and EA tools support, maintenance, and enhancement activities. The HHS CEA is responsible for resource allocation to support EA Program activities. This includes investment ownership of the HHS EA initiative that funds the HHS EA Support Program contract, HHS EA Repository, and supporting tools.

### **3.3.3 HHS Lead Architect**

Under the supervision of the Chief Enterprise Architect the HHS Lead Architect is responsible for the management of all HHS EA Program activities. The Lead Architect chairs the HHS Model Working Group/Configuration Control Board and serves as the acting chair of the Data Architecture Work Group in the event that the Data Architect position is vacant. The Lead Architect and staff are responsible for budget execution and management of contracts.

### **3.3.4 HHS Data Architect**

With the support of HHS EA Program staff the HHS Data Architect is responsible for the planning, development, and management of all HHS data architecture activities within the HHS EA Program. The Data Architect chairs the Data Architecture Work Group (DAWG) and facilitates collaboration among HHS and OPDIV data and enterprise architects in developing HHS enterprise-wide data artifacts. The Data Architect is also the liaison between the HHS EA Program and the HHS Data Council, with the responsibility for ensuring HHS EA data architecture efforts are consistent with and, as appropriate, compliant with HHS Data Council policies and activities.

### **3.3.5 HHS EA Program Staff**

The HHS EA Program staff includes HHS employees and EA support contractors. Under the direction of the HHS Lead Architect, the EA Program staff plan, execute, and monitor discrete program activities according to a work breakdown structure defined in the EA Program Plan. The HHS EA Program staff provide support to HHS EA stakeholders including:

- Program management activities including internal and external progress reporting;
- Development and maintenance of program documentation;
- Facilitation and meeting support for EARB, MWG/CCB, DAWG, and other groups;
- Demonstrating EA Program maturity improvement in accordance with assessment criteria specified by GAO and OMB;
- EA development and maintenance of the Department-level enterprise architecture;
- Development and enhancement of the HHS EA Framework;

- Segment-based architecture development and repository population;
- Development of information delivery and reporting capabilities to present EA information in support of content validation, critical partner review, and other uses;
- Administration and maintenance of the HHS EA Repository, including managing user access accounts and permissions;
- Development and delivery of training on the HHS EA Repository, EA Framework, standard modeling notation, and recommended modeling practices;
- Provision of technical support to the HHS EA Repository user community;
- Maintenance of EA information common to the Department and the OPDIVs, including enterprise services and technical standards as well as external references such as the Federal Enterprise Architecture and Federal Transition Framework catalog.

### **3.3.6 HHS Chief Information Security Officer**

The HHS Chief Information Security Officer (CISO) manages Secure One HHS, the HHS enterprise-wide information security program. Secure One HHS helps protect HHS against potential information technology (IT) threats and vulnerabilities. The Program ensures compliance with federal mandates and legislation including the Federal Information Security Management Act (FISMA) and the President's Management Agenda. The HHS CISO develops and disseminates information security and privacy policies for HHS, and prescribes standard processes to be used for fulfilling information security requirements, including certification and accreditation, risk assessment, vulnerability analysis, incident management and response, and security awareness and training. The HHS CISO also provides an enterprise FISMA data collection and reporting tool for use across the Department.

The HHS CISO works with the OS and OPDIV CISOs to coordinate the consistent implementation of security controls in accordance with FISMA requirements and to document the appropriate security and privacy supporting information for major information systems. The HHS EA Framework was designed to allow the accurate reflection of information security categorizations and corresponding security controls for information and information systems. In this regard the HHS EA Repository can produce views and reports to represent the HHS Security Architecture.

### **3.3.7 HHS Capital Planning and Investment Control Program Manager**

The HHS Capital Planning and Investment Control (CPIC) Program Manager is responsible for the planning, execution, and oversight of CPIC policies and procedures for all phases of the investment lifecycle as described in the Enterprise Performance Life Cycle (EPLC). The CPIC Program Manager supports HHS and its OPDIVs in the creation, approval, and prioritization of IT investments, including those incorporated in the HHS IT portfolio as reported in Exhibit 53 as required by OMB Circular A-11. The CPIC Program Manager also provides an enterprise Portfolio Management Tool (PMT) for use across the Department.



The CPIC Program Manager coordinates investment review and approval activities during all three phases of the CPIC investment lifecycle: select, control, and evaluate. The CPIC Program Manager and the CPIC Program staff work with the HHS EA Program staff and others to perform critical partner reviews for all major and tactical IT investments. The HHS EA Program critical partner review focuses on the EA section of the Exhibit 300 for each major investment, or the equivalent information captured for each tactical investment. The CPIC Program, under the direction of the Program Manager, performs the stage gate reviews required at the end of each EPLC phase using information and artifacts contributed by investment owners, IT program or project managers, and EA, information security, and CPIC programs.

### **3.3.8 Office of the Secretary Chief Information Officer**

The OS CIO directs the Office of Information Technology Operations within the Office of the Assistant Secretary for Administration and Management (ASAM), and has oversight responsibility for the HHS Information Technology Services Center (ITSC) computer network and related services. The scope of the OS CIO's responsibility includes the HHS Program Support Center (PSC) and the Office of Inspector General (OIG). Under the small OPDIV infrastructure consolidation initiative, the OS CIO also performs some CIO functions for the small OPDIVs within HHS. The OS CIO is a member of the HHS CIO Council, and is represented on the HHS EARB and subordinate work groups in a manner equivalent to the OPDIVs.

### **3.3.9 OPDIV Chief Information Officers**

Each OPDIV head within HHS is responsible for designating a Chief Information Officer (CIO) to coordinate, facilitate, and direct information resources management in support of the OPDIV mission. The OPDIV CIOs are members of the HHS CIO. Within the structure of their own agencies, the OPDIV CIOs typically provide leadership and oversight for review boards, councils, and committees with responsibility for reviewing and approving OPDIV IT investments, establishing and enforcing OPDIV-level technical standards, and building consensus and representing OPDIV perspectives on matters that may be considered at the Department level. The OPDIV CIOs are also responsible for designating a Chief Enterprise Architect or equivalent role to direct the enterprise architecture activities of the OPDIV.

### **3.3.10 OPDIV Chief Enterprise Architects**

The OPDIV CIO designates a Chief Enterprise Architect (CEA) to assure the development and documentation of the OPDIV's EA, which is reflected within the federated construct of the HHS EA. The OPDIV CEA represents the OPDIV's interests on the HHS EARB and other Departmental EA policy and advisory groups. The OPDIV CEA may also represent the OPDIV on cross-agency and government-wide EA initiatives including FHA and other line of business initiatives. Where an OPDIV consists of multiple operational sub-organizations (e.g., Centers, Institutes, and Offices), the OPDIV CEA assures that policies and information are disseminated to related business units and their EA representatives and provides a forum for agency-wide EA decision and advisory actions. The OPDIV CEA reports and makes recommendations to the OPDIV CIO and to any technology advisory group that may exist within the OPDIV on general EA matters, technology standards, and issues regarding adherence by OPDIV projects to the

OPDIV and Departmental EA. The OPDIV CEA is responsible for the completeness, accuracy, and currency of EA documentation in the OPDIV and Departmental portions of the HHS EA Repository. The OPDIV CEA also is responsible for ensuring correct and complete alignment of the OPDIV enterprise architecture to the HHS EA.

### **3.3.11 OPDIV Enterprise Architecture Programs**

Just as the HHS EA Program staff are responsible for Department-level enterprise architecture development and maintenance, it is the responsibility of individual OPDIV EA programs to model, populate, validate, and maintain information representing the OPDIV enterprise architectures. The Department and all OPDIVs share the same enterprise architecture repository and EA Framework. Both the modeling environment in the repository and the EA Framework were designed and implemented using a federated approach. This provides a common foundation for all EA modeling while allowing OPDIV EA programs the flexibility to extend or otherwise tailor the EA Framework to accommodate their specific requirements. Any such extensions are created and stored within the same centralized repository environment. OPDIVs electing to make these modifications must work with the HHS EA Program staff to make sure their extensions are technically valid and configured properly in the HHS EA Repository.

### **3.3.12 Information Technology Program and Project Managers**

Individual IT program and project managers are obligated to comply with various information provision requirements as their projects move through each phase of the HHS Enterprise Performance Life Cycle. The EPLC specifies the aggregate set of information and artifacts to be produced in each of 10 phases to satisfy CPIC, information security, and enterprise program requirements. Program and project managers are encouraged to engage proactively with their OPDIV and HHS EA Programs to help assess and understand the extent to which a proposed new or existing investment complies with the enterprise architecture. EA analysis can also identify opportunities to create reusable service components or reuse existing service components to deliver functional capabilities required by a given project.

## 4 Enterprise Architecture Use

This section describes the primary functional areas under the scope of EA Governance at HHS, and explains the role of EA in the various processes and activities in which EA participates. The purpose of this section with respect to EA Governance is to delineate the roles and responsibilities of EA stakeholders within major HHS functional processes. Explicit details regarding individual steps, process flows, decision points, constraints, supporting mechanisms, and inputs and outputs for each of these functional processes can be found either in process-specific functional documentation, or in process models in the HHS EA Repository, or both.

Table 2, below, summarizes the participation by individuals and groups in HHS business processes and functional areas described in the rest this part of the document.

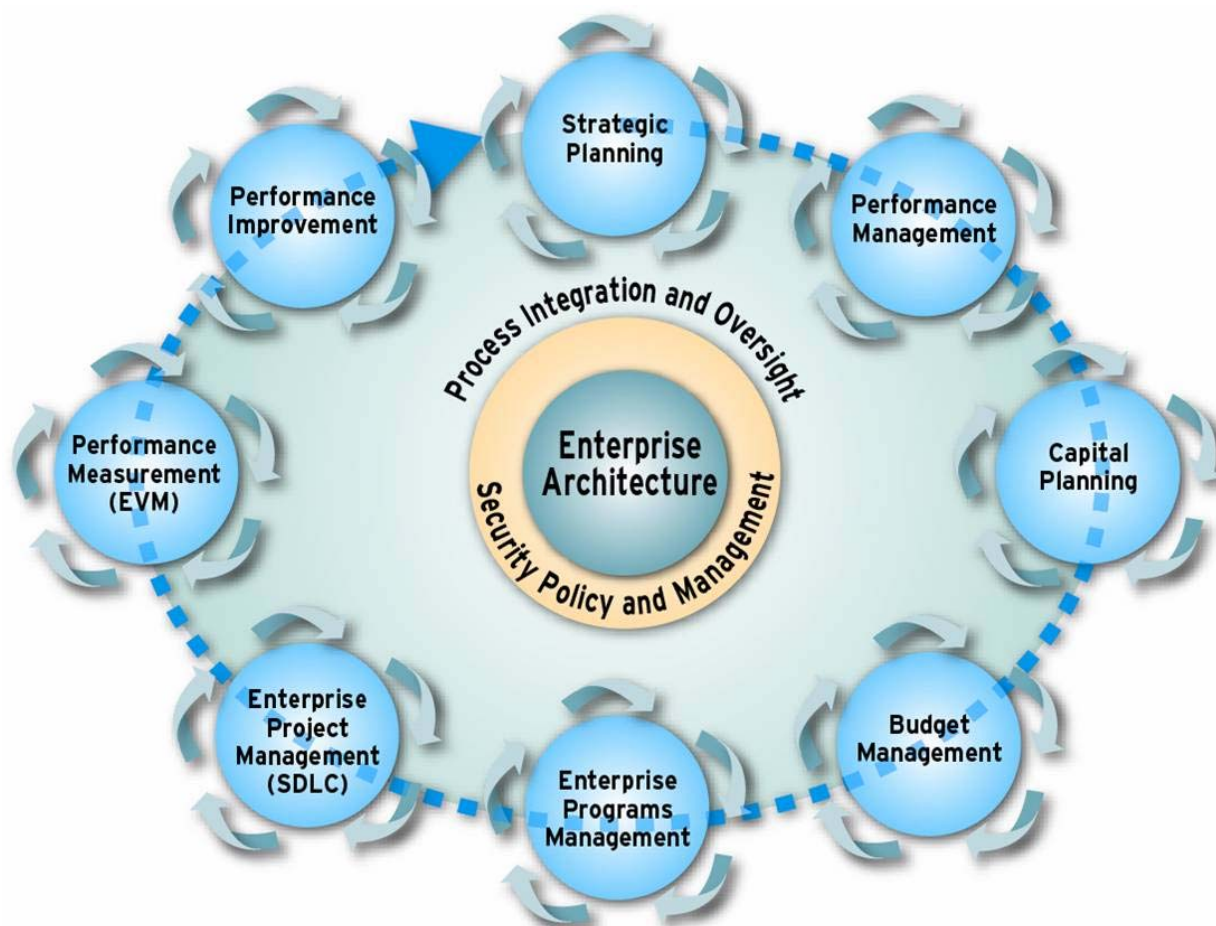
**Table 2: Participation in HHS Business Processes**

Participants	HHS Processes											
	Enterprise Performance Life Cycle	EA Program Management	EA Development	Segment Architecture Development	Standards Integration	Federal Alignment	Configuration Management	Repository Administration & Maintenance	Capital Planning and Investment Control	Information Security	Strategic Planning	Performance Measurement & Management
HHS CIO	O		O		O	O				O	O	O
HHS CEA	O	O	O	O		X	O	O	O	O	O	O
HHS Lead Architect		X	X	X	X	X	X	O				X
HHS CIO Council			O		O	O					O	O
HHS EARB		X	X	X	X	X	X	O			X	X
HHS MWG/CCB			X		X	X	X	X				
HHS DAWG			X	X	X	X	X					
HHS EA Program Staff	X	X	X	X	X	X	X	X		X	X	X
HHS CPIC Program Manager	X					X			X		X	X
HHS CISO	X				X	X				X	X	
HHS OS CIO					X	X				X	X	X
OPDIV CIO			X		X	X						X
OPDIV CEA		X	X	X	X	X	X					X
OPDIV EA Program Staff	X		X	X	X	X	X					X
IT Program/Project Manager	X				X				X	X		X

Legend: O = Oversight; X = Participant

## 4.1 Enterprise Performance Life Cycle

The HHS Enterprise Performance Life Cycle (EPLC) encompasses the major business functions executed under the Office of the CIO, and in particular shows at a high level the relationship among the different business functions and both the general order and the iterative nature of their execution. The placement of enterprise architecture in the center of the EPLC conceptual diagram, shown in Figure 4, reflects the supporting and enabling role that enterprise architecture serves for the major business functions in the EPLC.



**Figure 4: EA Supports the HHS Enterprise Performance Life Cycle**

The HHS EA Program explicitly considers the information needs of the EPLC processes in developing and enhancing the HHS EA Framework, collecting and populating data in the HHS EA Repository, and developing views, reports, and analytical tools that can be used to facilitate the execution of the EPLC processes.

The EPLC conceptual diagram in Figure 4 provides a Departmental perspective of key business functions. The EPLC is also relevant from an individual investment or project perspective, as each new investment passes through each phase of the EPLC. The investment-level perspective is detailed in the HHS Enterprise Performance Life Cycle Framework, a document maintained by

the HHS CPIC Program. Key EA roles and responsibilities for the EPLC at the investment level include:

- Information Technology Program and Project Managers are responsible for following the EPLC process steps and complying with information and artifact provision requirements corresponding to the stage gate criteria for each phase of the EPLC.
- The HHS EA Program provides reference information and reporting and analytical capabilities to support individual steps within EPLC phases and to support artifact production to support stage gate reviews as described in the HHS EPLC Framework.
- The HHS EA Program and OPDIV EA Programs provide data collection guidance and EA modeling support to investment owners and project teams following the EPLC.

## 4.2 EA Program Management

The HHS EA Program includes a Program Management Office (PMO) function. The overall management of the EA Program is described in detail in the HHS EA Program Management Plan, a document maintained by the HHS EA Program staff. Key EA roles and responsibilities for EA program management include:

- The HHS Chief Enterprise Architect establishes vision and direction for the HHS EA Program.
- The HHS Chief Enterprise Architect is responsible for communications and outreach activities to the HHS EA stakeholder community.
- The HHS Lead Architect, under authority from the Chief Enterprise Architect, is responsible for managing the HHS EA Program, including providing oversight of government staff and contractors supporting the program.
- The HHS EA Program staff provides day-to-day task management, planning, and progress and status reporting for all program activities specified in the EA Project Plan.
- The HHS EA Program staff provides standard points of contact for EA stakeholders to communicate and collaborate with the HHS EA Program.
- The HHS EA Program staff provides meeting facilitation and logistics support for meetings of the EA Review Board, Model Working Group/Configuration Control Board, Data Architecture Work Group, and other work group or ad hoc meetings convened by the HHS EA Program.

## 4.3 EA Development

The HHS EA Program is responsible for the development of the HHS Enterprise Architecture, including a Department-wide perspective that incorporates information from all STAFFDIV and OPDIV models populated in the HHS EA Repository. EA development activities conducted within the Office of Enterprise Architecture are specified in the HHS EA Project Plan. As described more fully in the next section, the HHS EA Program follows a segment-based

architecture development approach for new development activities. A large volume of EA information is currently housed in the HHS EA Repository. This existing information is subject to EA development activities outside of the segment development approach, for purposes of refinement, expansion of detail, and normalization and other data quality practices. Key EA roles and responsibilities for EA development include:

- The HHS Chief Enterprise Architect has oversight responsibility for and directs the development of the Departmental enterprise architecture.
- The HHS EARB serves as a steering committee for HHS EA activities, including EA development, and helps ensure coordination and cooperation among the Department and OPDIV EA programs.
- The HHS Lead Architect, in consultation with the CEA and EA Program staff, establishes and prioritizes explicit development tasks on a quarterly basis.
- OPDIV Chief Enterprise Architects and their EA Programs are responsible for developing the OPDIV enterprise architectures, communicating and collaborating with the Department EA Program and the EARB as needed to ensure the accurate representation of OPDIV information within the federated HHS EA structure.
- OPDIV Chief Enterprise Architects are responsible for approving, or acquiring the approval of, the content published in their OPDIV enterprise architecture models.
- OPDIV Chief Enterprise Architects and their EA program staff are responsible for periodically validating the accuracy and currency of information reflected in their OPDIV EA models.
- The HHS EA Program staff are responsible for periodic review and assessment of data quality and consistency of information in the HHS EA Repository. When deficiencies are discovered, the HHS EA Program staff will work with the OPDIV EA programs to resolve the deficiencies across all layers of the federated architecture.
- The HHS EA Program staff are responsible for development, maintenance, and enhancement of the HHS EA Framework in consultation with the Model Working Group. When updated versions of the EA Framework are implemented in the HHS EA Repository metamodel, the HHS EA Program staff takes responsibility for updating all models within the federated structure to the most up to date metamodel.

#### **4.4 Segment Architecture Development**

The HHS EA Program has adopted a segment-based architecture development approach, in order to give EA a business-driven perspective and to provide continuous improvement for the enterprise architecture at HHS. As noted in Part 2 of this document, HHS defines nine segments:

1. Access to Care
2. Health Care Administration

3. Health Care Delivery
4. Health Care Research and Practitioner Education
5. Human Services
6. Population Health Management and Consumer Safety
7. Information Resources Management
8. Management of Government Resources
9. Planning and Accountability

The HHS EA Program developed a standard methodology – with supporting tools and templates – to guide segment architecture development. Work on each of the nine segments will proceed in parallel, with the understanding that some priority of segments must be maintained to balance the work to be done and the resources available to do it. The HHS Chief Enterprise Architect has set the expectation that each segment will have one or more leads. In explaining the segment-based approach to the OPDIVs, the HHS CEA proposed that for the six mission-area segments, OPDIV Chief Enterprise Architects or their representatives take the lead for segments in which the OPDIVs have significant mission activities. For the other three segments, the HHS CEA will identify appropriate segment leadership and work with the OS and OPDIV EA programs and stakeholders to ensure that the segments accurately reflect the relevant portions of the HHS EA. Key EA roles and responsibilities for HHS Segment development include:

- The HHS Chief Enterprise Architect establishes HHS Segments and works with the OPDIVs to establish appropriate segment development leadership.
- The HHS Lead Architect, in consultation with the HHS CEA, establishes Department-level segment priorities, including sub-segments of the nine HHS Segments on which to focus EA development resources of the HHS EA Support Program.
- The HHS CEA identifies segment leadership for the Information Resources Management, Management of Government Resources, and Planning and Accountability segments.
- The OPDIV Chief Enterprise Architects, in consultation with the HHS CEA, provide leadership for the Access to Care, Health Care Administration, Health Care Delivery, Health Care Research and Practitioner Education, Human Services, and Population Health Management and Consumer Safety segments.
- The HHS EA Program staff develops and maintains the HHS Segment Architecture Development Methodology and associated tools and templates, and makes these documents available to all EA programs.
- The HHS EA Program staff assists in the development of segment and sub-segment architectures for the Information Resources Management, Management of Government Resources, and Planning and Accountability segments.
- The HHS EA Program staff provides guidance, facilitation, and modeling assistance to OPDIV-led segment development activities.

- The HHS EA Program staff develops model views and reporting templates to enable presentation of segment architecture information for EA stakeholders.

## 4.5 Standards Integration

The HHS EA includes the representation of technology, data, and service standards declared for use within HHS. The information on standards is captured using appropriate modeling objects and relationship types and can also be generated in a report format to produce the HHS Technical Standards Profile and the HHS Enterprise Services Profile. Within the Department-level EA, these represent enterprise standards intended to apply across HHS. Among the segment models within the federated HHS EA model structure, additional standards relevant to individual segments may also be populated.

Standards integrated into the HHS EA include those driven by external and internal factors. External factors for HHS include government-wide initiatives, regulations, or guidance with applicability to all federal agencies, as well as domain-specific standards which HHS is obligated to adopt due to its position in the health IT community. Internal factors for HHS include existing use of technologies, data standards, and services, as well as intended standards identified through strategic planning, target architecture development, or other analysis. Key EA roles and responsibilities for standards development and integration include:

- The HHS EA Program staff reviews and analyzes existing technologies, data standards, and services in use at both the enterprise and OPDIV-specific levels, to identify candidates to be declared standards (or alternately, existing standards to be deprecated).
- The HHS EARB reviews proposed changes (additions, updates, deletions) to the lists of HHS standards to validate both their completeness and relevance.
- The HHS CIO Council, under specific authority, establishes and approves standards recommended to it by the HHS EARB and/or HHS and OPDIV CIOs.
- The HHS EA Program staff models all approved standards in the HHS EA Repository, in order to facilitate the use of standards information to demonstrate implementation, adherence to, or other compliance with various standards as may be required by HHS policy, federal legislation, or other regulations.

## 4.6 Federal Alignment

HHS is required to demonstrate integration of and alignment to a variety of externally driven standards, initiatives, and reference models. Representative examples include the FEA reference models and Federal Transition Framework initiatives published by OMB, technical and health IT standards promulgated by authoritative standards bodies such as the National Institute for Standards and Technology (NIST) and the Healthcare Information Technology Standards Panel (HITSP). The integration of relevant standards within the HHS EA is described in the previous section. Key EA roles and responsibilities for ensuring appropriate alignment of the HHS EA to federal references include:



- The HHS CIO officially represents the Department for purposes of government-wide mandates and cross-agency technical initiatives in which HHS participates. The HHS CIO may choose to delegate tasks related to federal initiative alignment to one or more programs under the supervision of the Office of the CIO.
- The HHS CEA is the designated point of contact for HHS in terms of participation as a Lead Partner in the Federal Health Architecture line of business initiative. In this capacity, the HHS CEA is responsible for working with FHA participants, including HHS OPDIVs, to determine the Departmental perspective or position on matters related to FHA.
- The HHS CEA is obligated by the OMB Federal Enterprise Architecture PMO to incorporate the information contained in the Federal Transition Framework catalog into the HHS EA. The HHS CEA may assign the fulfillment of this obligation to the HHS EA Program staff.
- The HHS EA Program staff are responsible for importing relevant federal alignment information into the HHS EA Repository and making it available to all HEAR users. This information includes, but is not limited to:
  - Federal Enterprise Architecture Reference Models
  - Federal Transition Framework Initiatives and corresponding FTF Catalog data
  - Items on the President’s Management Agenda

These and other items are made available to HHS EA Repository users in a common model, providing a set of reference objects to which modelers can create alignment relationships.

- HHS and OPDIV EA Programs are responsible for establishing appropriate alignment relationships for the EA models they create, manage, and maintain.
- The HHS EA Program staff provides instructions and general modeling guidelines to all HHS EA Repository users to help ensure consistent and accurate EA alignment.

## 4.7 Configuration Management

The HHS EA Program follows explicit configuration management procedures for receiving, analyzing, and adjudicating change requests, and tracking the disposition of submitted change requests, whether approved for implementation or rejected. The details of the HHS EA Configuration Management process are described in the HHS EA Configuration Management Plan, a document maintained by the HHS EA Program staff. The Configuration Management Plan lists the items under configuration control and describes the steps to create and process change requests. The HHS EA Program uses a Change Request Support System for submitting and tracking change requests. Key EA roles and responsibilities for configuration management include:

- All HHS EA stakeholders are permitted to submit change requests. The HHS EA Program maintains an online system for submission of change requests; other viable channels for submitting change requests include suggestions in the course of Model Working Group/Configuration Control Board meetings and direct contact with the HHS EA Program.
- The HHS EA Program regularly conducts analysis of the HHS EA Framework and the Repository environment to consider the extent to which the HHS EA is able to support modeling and reporting needs coming from the OPDIVs, the Department, OMB, or other internal and external drivers.
- OPDIV EA Program staff are expected to discuss and consider potential change requests within their own program structures, including soliciting the approval of the OPDIV Chief Enterprise Architect and OPDIV EA advisory or governance bodies, as needed.
- The HHS EA Program staff receives all change requests and conducts impact and level of effort analyses to support the change request adjudication process.
- Change requests are adjudicated by the Configuration Control Board, following standard or emergency change request processes as described in the HHS EA Configuration Management Plan.
- The recommendations of the CCB, including change requests approved for implementation, are communicated to the HHS EARB.
- Approved changes are implemented by the HHS EA Program staff.

#### **4.8 EA Repository Administration and Maintenance**

The HHS EA Program manages the HHS EA Repository and related tools, including technical administration of the software systems, user and license maintenance, and access control. The HHS EA Repository is deployed as a single physical instance, with licenses and access rights available to all OPDIV EA programs. Key roles and responsibilities for EA Repository Administration and Maintenance include:

- The HHS EA Program staff maintains a liaison relationship and communicates with HHS IT Service Center personnel regarding the technical environment in which the HHS EA Repository is hosted.
- The HHS EA Program staff manages overall (non-incident-driven) availability of the HHS EA Repository, including regularly scheduled down-time for maintenance, updates, and software upgrades and enhancements
- The HHS EA Program staff manages the list of users granted access to the HHS EA Repository, including assigning access permissions.
- HHS and OPDIV Chief Enterprise Architects are responsible for specifying the access privileges that should be granted to HHS EA Repository users working within their EA programs.

- All HHS EA Repository users must read and sign the Rules of Behavior before access is granted.
- The HHS EA Program staff performs at least semi-annually a review and validation of all current users to ensure access privileges are revoked for individuals no longer requiring access due to reassignment, termination, or other reasons.
- The HHS EA Program staff maintains a standard desktop installation package distributed to approved HHS EA Repository users, and provides technical support for installing the software to HHS and OPDIV EA program staff or their technical support personnel.

## 4.9 Capital Planning and Investment Control

The HHS EA Program is closely aligned with the HHS CPIC Program, both in terms of collecting and modeling information associated with major and tactical investments in the HHS IT portfolio, and in using the EA as a basis for supporting key CPIC processes. The details of most CPIC program activities are described in the HHS OCIO Policy for IT Capital Planning and Investment Control and the HHS OCIO CPIC Procedures. Both documents are developed and maintained by the HHS CPIC Program. As noted above, the CPIC Program also oversees the implementation of the HHS Enterprise Performance Life Cycle, and fulfills specific roles and responsibilities within the context of the EPLC phases. For the HHS EA Program the primary areas of interaction with CPIC are:

1. Information sharing and integration between the HHS Portfolio Management Tool maintained by the CPIC Program and the HHS EA Repository maintained by the HHS EA Program.
2. Performing analysis and feedback on the EA portions of IT investment business cases through participation in the Critical Partner Review of all major and tactical IT investments.
3. Preparation, maintenance, and update of information for the HHS EA investment for use in both the HHS EA Repository and the HHS Portfolio Management Tool.

Significant information overlaps exist between the data collected and maintained by the EA and CPIC programs. The HHS Portfolio Management Tool is the Department's system of record for IT investments constituting the HHS IT Portfolio. The HHS EA Repository contains additional data beyond the scope of data maintained in the PMT, but with respect to investments, the HHS EA Repository is the system of record only for EA information related to investments. Key EA roles and responsibilities for Capital Planning and Investment Control activities include:

- The HHS EA Program staff, in consultation with the HHS CEA and the HHS CPIC Program Manager, are responsible for integrating the HHS EA Repository and the Portfolio Management Tool to support both CPIC and EA Program requirements.
- HHS EARB members participate in EA Critical Partner Reviews of all priority investments (i.e., major and tactical) prior to the submission of the IT Portfolio to OMB. These reviews focus on assessing the EA portion of investment business cases using the evaluation criteria specified by OMB for its reviews of agency IT investments.

- The HHS EA Program staff are responsible for ensuring that all Department-owned or managed priority IT investments captured in the PMT are reflected in the HHS EA with the appropriate level of detail as specified in the HHS EA Modeling Guide.
- OPDIV Chief Enterprise Architects and their EA Programs are responsible for ensuring that all OPDIV-owned or managed priority IT investments captured in the PMT are reflected in the HHS EA with the appropriate level of detail as specified in the HHS EA Modeling Guide.
- The HHS Lead Architect is responsible for ensuring the timely update of information related to the HHS EA initiative (a supporting investment) in the PMT.

## 4.10 Information Security

The HHS EA Program works closely with the HHS Chief Information Security Officer, to ensure that the HHS EA Framework – and in particular the Security Aspect of the Framework – accurately reflects the information and modeling needs of the Secure One HHS Program. The details of many Secure One program activities are described in the HHS IT Security Program Policy, a documents developed and maintained by the Secure One HHS Program. The CISO also oversees the creation of policies and procedures used to complete security-related tasks within the phases of the HHS Enterprise Performance Life Cycle, and fulfills specific roles and responsibilities within the context of the EPLC phases. The Secure One HHS Program maintains a FISMA data collection and reporting tool. For the HHS EA Program the primary areas of interaction with Information Security are:

1. Information sharing and integration between the HHS FISMA Reporting Tool maintained by the Secure One HHS Program and the HHS EA Repository maintained by the HHS EA Program.
2. Development, maintenance, and update of the certification package for HHS EA Repository system for initial and re-accreditation. As a program operating under the Office of the Secretary, the designated approving authority for the HHS EA Repository system is the OS CIO.

The HHS FISMA Reporting Tool is the Department’s system of record for capturing security and privacy information corresponding to major and general support systems and the information managed and used by those systems. The HHS EA Framework provides modeling constructs to reflect data and system level security attributes, security controls, and security-specific standards. The greatest area of information overlap between the FISMA Reporting Tool and the HHS EA Repository is with respect to systems, since the Department’s FISMA Systems Inventory is a subset of all HHS systems. The HHS EA Repository is designed to represent security characteristics of both information and systems in a context that includes linkages to business processes, IT services, performance measures, facilities, investments, and other dimensions that collectively help define and describe the HHS Security Architecture. Key EA roles and responsibilities for security activities include:

- The HHS EA Program staff, in consultation with the HHS CEA and the HHS CISO, are responsible for integrating information contained in both the HHS EA Repository and the FISMA Reporting Tool to support both Security and EA Program requirements.
- The HHS CISO develops, approves, and implements security and privacy policies and standard processes that direct the activities of IT Project Managers with respect to ensuring sufficient security and privacy provisions for their projects and systems.
- The HHS EA Program staff are responsible for ensuring that all Department-owned or managed systems are reflected accurately in the HHS EA, including population of attributes in the Security Aspect of the EA Framework. The attribute values in most cases need to be provided by the Secure One HHS program.

#### **4.11 Information Resources Management Strategic Planning**

The HHS CIO is responsible for developing and updating the Information Resources Management (IRM) Strategic Plan on a tri-annual basis. The IRM Strategic Plan describes a future state for IRM using a five-year planning horizon. The IRM Strategic Plan establishes IRM goals, objectives, and outcomes, and aligns the IRM-specific goals and objectives to the business goals and objectives articulated in the HHS Strategic Plan. The IRM Strategic Plan is an important input to effective target architecture planning and development, which in turn drives appropriate IT investment decision making. The goals, objectives, outcomes, and performance measurement indicators documented in the HHS Strategic Plan and the IRM Strategic Plan are reflected in the HHS EA Repository. These enable alignment of initiatives, investments, and programs to appropriate strategic drivers and performance measures. As the IRM Strategic Plan is revised and updated, the HHS EA Program also supports the strategic planning process. It supports this process in terms of convening and facilitating strategic planning workshops and in using information generated from the HHS EA Repository to provide a snapshot of existing strategic drivers and the entities aligned to them. Key EA roles and responsibilities for IRM strategic planning activities include:

- The HHS EA Program staff captures, maintains, and updates strategic planning drivers derived from both internal and external sources in the HHS EA Repository.
- The HHS Chief Enterprise Architect, under authority delegated by the HHS CIO, convenes annual strategic planning workshops with IRM and business area subject matter experts from the Department and the OPDIVs to review and update the IRM strategic plan as necessary. The workshops are organized around the nine HHS Segments.
- The HHS EA Program staff supports and facilitates the strategic planning workshops, including meeting and logistics support, material development, and meeting facilitation and process guidance throughout the workshop sessions.
- The HHS EA Program staff captures and consolidates the results of the planning workshops and incorporates the information gathered into a draft revision of the HHS IRM Strategic Plan.
- The HHS CEA and the HHS CIO review the HHS IRM Strategic Plan.

- Upon acceptance and recommendation for approval by the HHS CEA and the HHS CIO, the CIO Council reviews and formally approves the HHS IRM Strategic Plan.

## 4.12 Performance Measurement and Management

Performance measurement and management is a fundamental requirement for all programs operating within the Office of the Chief Information Officer. The HHS EA Program develops and maintains a performance architecture framework for HHS, derived from the Federal Enterprise Architecture Performance Reference Model and organized according to the nine HHS Segments. The performance architecture provides a construct through which specific performance measurement indicators can be specified for initiatives, projects, investments, and other relevant activities. As prescribed in the HHS Performance Management Plan, discrete metrics or other measures of success should be first established, then monitored to enable performance-based management. Key EA roles and responsibilities for performance measurement and management activities include:

- The HHS CEA, in consultation with the HHS EARB, develops and updates the HHS performance reference model, which identifies required and recommended types of performance measures by HHS Segment.
- The HHS EA Program staff incorporate the HHS performance architecture within the HHS EA Repository.
- IT Program and Project Managers, in collaboration with investment owners, select performance measurement indicators for their activities, including specifying performance targets for the metrics they expect to measure.
- The HHS EA Program staff are responsible for modeling Department-level performance measurement indicators, including the alignment of those indicators to the performance reference model and to relevant strategic drivers such as business and IRM objectives.
- OPDIV Chief Enterprise Architects and their EA Programs are responsible for modeling OPDIV-level performance measurement indicators and aligning those indicators to the performance reference model and to relevant strategic drivers such as business and IRM objectives.
- The HHS Program staff, in collaboration with the HHS CEA, are responsible for periodic review and assessment of performance measures specified in the HHS EA for Department-level and OPDIV-level activities to validate the quality and utility of the metrics selected.

## Appendix A ACRONYMS AND ABBREVIATIONS

ACF	Administration for Children and Families
AOA	Administration on Aging
AHRQ	Agency for Healthcare Research and Quality
ASAM	Assistant Secretary for Administration and Management
ASRT	Assistant Secretary for Resources and Technology
ATSDR	Agency for Toxic Substances and Disease Registry
BRM	Business Reference Model
CCA	Clinger-Cohen Act of 1996 (Information Technology Management Reform Act)
CCB	Configuration Control Board
CDC	Centers for Disease Control and Prevention
CEA	Chief Enterprise Architect
CFO	Chief Financial Officer
CHI	Consolidated Health Informatics
CIO	Chief Information Officer
CISO	Chief Information Security Officer
CMS	Centers for Medicare and Medicaid Services
CPIC	Capital Planning and Investment Control
CRM	Consolidated Reference Model
CTO	Chief Technology Officer
DASIT	Deputy Assistant Secretary for Information Technology
DAWG	Data Architecture Work Group
DRM	Data Reference Model
e-Gov	Electronic Government
EA	Enterprise Architecture
EARB	Enterprise Architecture Review Board
EPLC	Enterprise Performance Life Cycle
FDA	Food and Drug Administration
FEA	Federal Enterprise Architecture
FEAF	Federal Enterprise Architecture Framework
FedCIRC	Federal Computer Incident Response Capability
FHA	Federal Health Architecture
FIPS	Federal Information Processing Standard
FISMA	Federal Information Security Management Act of 2002 (E-Government Act)
FTF	Federal Transition Framework
GAO	Government Accountability Office

GPRA	Government Performance Results Act of 1993
HIPAA	Health Insurance Portability and Accountability Act of 1996
HITSP	Health Information Technology Standards Panel
HEAR	HHS Enterprise Architecture Repository
HHS	Health and Human Services
HRSA	Health Resources and Services Administration
IHS	Indian Health Services
IRM	Information Resources Management
IT	Information Technology
ITIRB	Information Technology Investment Review Board
ITSC	Information Technology Services Center
LOB	Line of Business
MWG	Model Working Group
NIH	National Institutes of Health
NIPC	National Infrastructure Protection Center
NIST	National Institute for Standards and Technology
OCIO	Office of the Chief Information Officer
OEA	Office of Enterprise Architecture
OIG	Office of the Inspector General
OMB	Office of Management and Budget
ONC	Office of the National Coordinator for Health Information Technology
OPDIV	Operating Division
OS	Office of the Secretary
PMA	President's Management Agenda
PMO	Program Management Office
PMT	Portfolio Management Tool
PRM	Performance Reference Model
PSC	Program Support Center
SAMHSA	Substance Abuse and Mental Health Services Administration
SDLC	Systems Development Life Cycle
SRM	Service Component Reference Model
STAFFDIV	Staff Division
TRM	Technical Reference Model



**Appendix B REFERENCES**

<b>Reference</b>
HHS Information Resources Management Strategic Plan 2007-2012
HHS Performance Management Plan
HHS OCIO Policy for IT Capital Planning and Investment Control
HHS OCIO CPIC Procedures
HHS Enterprise Performance Life Cycle
HHS OCIO IT Policy for Enterprise Architecture
HHS Information Security Program Policy
HHS Transition Plan
HHS EA Program Management Plan
HHS EA Configuration Management Plan
HHS EA Communications and Outreach Plan
HHS EA Segment Architecture Development Methodology
HHS EA Framework
HHS EA Modeling Guide
Federal Enterprise Architecture Consolidated Reference Model v2.1
Federal Transition Framework v1.0
Federal Enterprise Architecture Practice Guidance